

JOAP News & Views

2nd Quarter 1999

JOAP

International Condition Monitoring Technology Showcase 2000 Call for Papers

Please plan to join us for the 2000 Technology Showcase April 3 through 7, in Mobile, Alabama USA. This biennial conference continues to provide an effective means to exchange ideas and technology among the equipment maintenance, condition monitoring, diagnostics and reliability communities. Papers are presented on the latest monitoring technology developments, applications and case histories from military, industrial, academia and professional organizations. Training courses and exhibits are provided on current and upcoming technologies and equipment. All related topics including condition monitoring, nondestructive testing, lubricant analysis, vibration analysis, sensor technology, reliability analysis, maintenance concepts, diagnostics, life extension and data management are solicited.

The conference is co-organized by the Joint Oil Analysis Program Technical Support Center and the University of Wales, Swansea, Mechanical Engineering Dept. with the STLE as a cosponsoring body.

Paper Submission

Those wishing to offer papers should provide a 400 to 600 word abstract including a cover sheet containing the following information:

- Complete title of work
- Author(s), indicate the presenter
- Company or organization
- Complete address, telephone, fax, Email
- State whether the paper has been presented or published before. If so, where and the circumstances.

Abstracts must be received before November 1, 1999. Send three copies of the abstract to Gary Humphrey. If you cannot meet the November deadline, please contact Mr. Humphrey.

All papers will be evaluated for technical content and merit and should describe new works, ideas, research, methods, applications, case histories, studies, etc. The ruling of the Technical Committee will be final. Authors will be notified of acceptance by December 1, 1999.

Papers accepted for presentation will be published in the Conference Proceedings. The Proceedings will be available at the conference. With your acceptance notification, you will receive an author's kit containing instructions for the preparation of your paper in camera-ready form. Your final manuscript must reach the JOAP-TSC not later than January 15, 2000.

The Conference sponsors assume no responsibility or liability for the content of submitted papers, or if valid releases for publication have been obtained by their authors. Authors of papers are responsible for contents, and the securing of any release for publication that might be required.

Education Program

Half-day and one-day training classes are planned for a variety of subjects. Those wishing to present a short course or seminar should send a detailed class outline containing subject matter, class length, size limitations, expected cost per student and who should attend. Submissions must be made to the Conference Chair, Allison M. Toms, JOAP-TSC, before November 1, 1999. A final selection of the classes to be offered will be made in December 1999.

Exhibit Program

The conference will provide opportunities to display and demonstrate condition monitoring equipment, test instruments, software and computer systems to a wide variety of participants. The exhibits will be located across from the technical paper session rooms in the Mobile Convention Center. All providers of equipment maintenance and monitoring technology are welcome. Reservations for exhibit space should be made to the JOAP Conference Co-Chair, Jane A. Hughes.

All queries for conference information can be sent to JOAP International Conference, JOAP-TSC, 296 Farrar Road, Pensacola, FL 32508-5010, or to conference@joaptsc.navy.mil.

What's inside:

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and more ...

Correlation Corner

by Mike Cassady

Correlation Results

We realize how important the correlation results are to the success of your laboratory operations. The results directly impact your certification status and ability to provide continued support for your customers. Our support of the correlation program has a high priority but lately many laboratory personnel have been contacting us to see if their data has been received. Please do not call us to confirm receipt. Over 300 laboratories are enrolled in the program and calls such as these are consuming a lot of our time. If you send data by two methods, such as facsimile and e-mail, we should get the data one way or the other. You can set your email for receipt verification. We no longer assess penalty points for late submission. So if you get a non-submittal (N/S) notice, just contact us, provide the data, and we will update your records. We have also received many phone calls from laboratory personnel before the 25th of the month wanting to know their scores. We do not process the results until the 25th of the month or the first work day after the 25th if the 25th falls on a weekend. Please use the following address for e-mail submissions: corr@joaptsc.navy.mil.

Air Force JOAP Data Transmittal

The e-mail address for the Air Force JOAP data submission is joap-tsc@pens-emh3.ncts.navy.mil. Ensure that the subject in the e-mail is exactly as follows (all capital letters and one space between the sets of letters as shown): AETC ATTN JCL

If you have questions pertaining to errors identified in your reports, please call MSgt. Michael Rowe at DSN 336-4430. MSgt. Rowe is the new Air Force Oil Analysis Field Representative who relieved MSgt. Robert Reyes. Other general information concerning the Air Force data bank may be obtained by calling Mike Cassady at DSN 922-3191 ext. 121.

OMA Program

by Michel Murphy (STLE)

Oil Monitoring Analysts Program

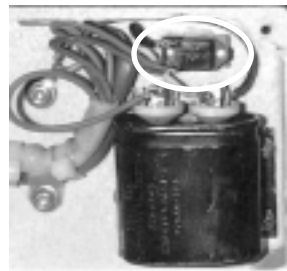
The Society of Tribologists and Lubrication Engineers (STLE) is developing the Oil Monitoring Analysts (OMA) program that will enable individuals to demonstrate their proficiency in basic equipment lubrication; oil sampling procedures; interpretation of oil analysis data; and other data analysis procedures such as archiving, troubleshooting, and equipment profiling. The first tangible results of the OMA will be a competency test to be offered for the first time at the Annual STLE meeting May 1999 in Las Vegas, NV. If you are thinking about retiring and want to stay in this field in industry, you may want to consider this test. For further information, contact M. Murphy at michel.murphy@sympatico.ca.

Electrode Sharpener

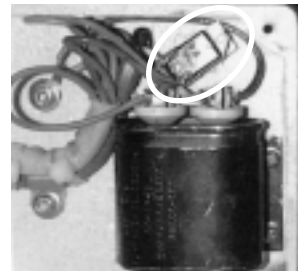
by Allan Lang

Aerospace and Telecommunications Engineering Support Squadron (ATESS) of the Canadian Air Force offers the following warning concerning the possibility of electric shock from Baird Corp. rod electrode sharpeners.

Investigation by ATESS has revealed the On/Off switch can work itself loose after repeated use. Once the switch is loose, it may rotate on its mount, coming in close vicinity of the capacitor contacts. This poses an obvious electrical hazard. In addition, the capacitor may also loosen from its mounts. This allows the capacitor to move around and provides yet another opportunity for electrical shock should it come in close vicinity to the On/Off switch contacts. We recommend regular inspections of the sharpener including the On/Off switch and the capacitor mounting.



Correct Switch Position



Incorrect Switch Position

The JOAP-TSC has also experienced problems with electrical shorting of the toggle switch on the Baird sharpeners. One such problem was due to carbon dust from the sharpening process getting into the toggle switch itself. The solution applied was to replace the switch with a push button type that provided a button head that would not allow carbon dust to enter the assembly. If you choose to replace the switch, ensure that the replacement has a lock washer and that the contacts cannot cause a short with the capacitor or housing.

Inspections and corrections of these sharpeners are simple and can be performed by local maintenance personnel. It is a small price to pay to ensure safety, please check your sharpeners today.

Thanks to ATESS for the tip.

If you have a topic you would like discussed or wish to submit an article, please contact the newsletter editor.

Newsletter Editor

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Standards Corner

by Marilyn Squalls

Shelf-Life of Standards

The JOAP standards shelf-life policy has not changed. You cannot extend the shelf-life. When the standard expires, properly dispose of it.

D19-0 standard	No expiration date
All D12 standards	30 month shelf-life
D3-100 standard	12 month shelf-life

As of 31 March 1999, the following standards have expired and should be discarded:

<u>Concentration</u>	<u>Batch Number</u>
D12-5	MB12-5-61 and below
D12-10	MB12-10-140 and below
D12-30	MB12-30-103 and below
D12-50	MB12-50-79 and below
D12-100	MB12-50-248 and below
D12-300	MB12-300-34 and below
D3-100	MB3-100-145 and below

“Questioned” Standards

When you standardized your spectrometer this morning, did one of your standards read incorrectly? Is a standard not behaving the way you think it should? If you have questions about JOAP standards, call the TSC. When you call, we will ask for several things. We will ask for a concise explanation of the problem; a hard copy of the standardization analyses and the analyses of the “questionable” standards that put you on alert; the batch number, the manufacture date and the expiration date of the “problem” standards. We may ask you for the bottles of opened standards to check against our quality control standards.

When the integrity of a standard is questioned, the TSC production team takes these questions seriously. Several different people at the TSC are involved in resolving the question; samples of the “problem” standard must be collected and revalidated. Written documentation is required to document any correspondence on the standard, etc.

If you have a problem with a standard, we want you to contact us. We will answer your questions and find solutions to your problems. If you discover that your problem was caused by something other than the standard, we need to know that too. If you don't tell us that the standard is okay, we will do the necessary testing to revalidate the standard and all of the follow-up documentation. These procedures take a lot of time. So, no matter what the outcome, please tell us if you find that something other than the standard caused your problem.

Just In Time Ordering

When ordering standards, these suggestions are offered. Estimate requirements on a quarterly basis; order in a timely manner. Don't stockpile standards. Estimating your needs and ordering based on that estimate will help in several areas:

1. The number of unused expired standards in your lab will decrease.
2. Your lab will be using fresher standards.
3. The quantities of standards in the supply system should stabilize because there won't be “runs” on the system.

We know that emergency needs arise and we are here to help. For emergency requests, please contact Jane Hughes at DSN 922-3191 x102, jhughes@joaptsc.navy.mil or Tim Yarborough x119, tyarborough@joaptsc.navy.mil.

Material Safety Data Sheets (MSDS)

The JOAP-TSC updated the MSDS for the D12/D3 JOAP standards. Initially, the TSC will send a paper copy of the updated MSDS to each customer with their Correlation scores. The document will also be available on our web site www.joaptsc.navy.mil. The JOAP-TSC will discontinue the practice of putting an MSDS into each canister of standard. If you have any questions about the material contained in the MSDS, the POC is Mike Poff, mpoff@joaptsc.navy.mil, DSN 922-3191 x 114.

The EDXRF Files #4

by Gary Humphrey

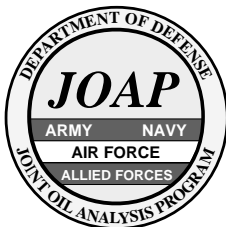
In our last installment, the problems that plague AES analysis were introduced. In summary, AES cannot measure particles greater than 10 microns and fine filtration is leaving fewer particles for AES to measure.

Some equipment managers responsible for ensuring operational safety respond to the ineffectiveness of AES by removing the system from AES analysis. The loss of AES data means the manager must: (1) compensate for the loss of AES by using other technology; (2) accept the loss of AES and use other diagnostics already present, i.e., chip detectors, etc. or (3) increase preventive maintenance

What does the loss of AES data mean? Testing a machinery fluid for wear metals by AES gives insight into the degree of wear occurring. Thus, discontinuing AES handicaps the equipment manager and effects safety of operation. To compensate for the loss of AES, a substitute technology should give at least as much information as AES. For example, let's review chip detectors. Chip detectors **capture only** ferromagnetic particles that are at least 50 microns in size. In addition, the capture efficiency for chip detectors is about 30%. Consequently, because of the poor capture efficiency and the use of nonferrous metals, one cannot rely on chip detectors as the sole diagnostic tool for all wear related failure modes.

EDXRF analysis of metallic debris removed from spent filters provides simultaneous results of individual elements regardless of size and their respective metallurgies. These data can be effectively related to individual equipment failure mode signatures and provide reliable advance warning of abnormal wear conditions.

More in the next issue ...



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The Back Page

by Allison Toms

COBRA Standards

Recent reports from field laboratories and Pratt & Whitney have indicated a problem with contamination of the COBRA standard. Calibration with contaminated standard can cause the COBRA units to read too low OR too high. We believe the standard is being contaminated at the field level by the various solvents (e.g. isopropyl alcohol)—used to clean the sampling device (e.g. glass rod) which is used to transfer standard to the COBRA unit. Testing has shown that contamination with 1% isopropyl alcohol will cause the COBRA unit to read 9 when calibrated by an uncontaminated standard. Consequently, if the contaminated standard reading 9 was used to calibrate the instrument, the field samples would register lower readings. At this time, we do not know what is causing the higher readings.

The JOAP TSC has produced three lots of standards. All three are still registering 8 on the COBRA unit when cross-checked with each other. [The first standard COBRA 001 was manufactured 1 May 1997.] New standards have been sent to Pratt & Whitney and other field laboratories. All report the new standards register 8 on the COBRA unit when checked against other “good” standards.

If the COBRA standard is too high, subsequent weapon system results will be too low and problems will be missed. If the COBRA standard is too low, unnecessary maintenance actions will be recommended.

To prevent contamination, JOAP TSC has found a glass bottle with a “dropper” style top. Hopefully, this container will eliminate the contamination issue. Another alternative is to have “two” standards at different levels – one for a reference check. We do not want to take this approach unless necessary, as it will raise the cost of the standard.

If anyone is experiencing problems with their COBRA standards, please contact Gary Humphrey at ext. 105.

Meetings & Conferences

Society of Tribologists and Lubrication Engineers, May 23 - 27, 1999, Las Vegas, NV.

Contact: STLE@interaccess.com or 847-825-5536

COMADEM '99, July 5 - 9, 1999, Sunderland, UK.

Contact: M. Hindmarch, 44-191-5153296, www.comadem99.sunderland.ac.uk

48th Defense Working Group on Nondestructive Testing, 1 - 4, Nov 99, Indian Head, MD.

Contact: BurtchetteDE@ih.navy.mil
